



REVISTA INCLUSIONES

INVESTIGACIÓN Y CIENCIA DESDE EURASIA

Revista de Humanidades y Ciencias Sociales

Volumen 7 . Número Especial

Julio / Septiembre

2020

ISSN 0719-4706

CUERPO DIRECTIVO

Directores

Dr. Juan Guillermo Mansilla Sepúlveda

Universidad Católica de Temuco, Chile

Dr. Francisco Ganga Contreras

Universidad de Tarapacá, Chile

Editor

Drdo. Juan Guillermo Estay Sepúlveda

Editorial Cuadernos de Sofía, Chile

Editor Científico

Dr. Luiz Alberto David Araujo

Pontificia Universidade Católica de Sao Paulo, Brasil

Editor Europa del Este

Dr. Aleksandar Ivanov Katrandzhiev

Universidad Suroeste "Neofit Rilski", Bulgaria

Cuerpo Asistente

Traductora: Inglés

Lic. Pauline Corthorn Escudero

Editorial Cuadernos de Sofía, Chile

Portada

Lic. Graciela Pantigoso de Los Santos

Editorial Cuadernos de Sofía, Chile

COMITÉ EDITORIAL

Dr. Jaime Bassa Mercado

Universidad de Valparaíso, Chile

Dra. Heloísa Bellotto

Universidad de Sao Paulo, Brasil

Dra. Nidia Burgos

Universidad Nacional del Sur, Argentina

Mg. María Eugenia Campos

Universidad Nacional Autónoma de México, México

Dr. Francisco José Francisco Carrera

Universidad de Valladolid, España

Dr. Pablo Guadarrama González

Universidad Central de Las Villas, Cuba

Mg. Amelia Herrera Lavanchy

Universidad de La Serena, Chile

Dr. Claudio Llanos Reyes

Pontificia Universidad Católica de Valparaíso, Chile

Dr. Werner Mackenbach

Universidad de Potsdam, Alemania

Universidad de Costa Rica, Costa Rica

Mg. Rocío del Pilar Martínez Marín

Universidad de Santander, Colombia

Ph. D. Natalia Milanese

Universidad de Houston, Estados Unidos

Ph. D. Maritza Montero

Universidad Central de Venezuela, Venezuela

Dra. Eleonora Pencheva

Universidad Suroeste Neofit Rilski, Bulgaria

Dra. Rosa María Regueiro Ferreira

Universidad de La Coruña, España

Dr. Andrés Saavedra Barahona

Universidad San Clemente de Ojrid de Sofía, Bulgaria

Dr. Efraín Sánchez Cabra

Academia Colombiana de Historia, Colombia

Dra. Mirka Seitz

Universidad del Salvador, Argentina

Ph. D. Stefan Todorov Kapralov

South West University, Bulgaria

COMITÉ CIENTÍFICO INTERNACIONAL

Comité Científico Internacional de Honor

Dr. Adolfo A. Abadía

Universidad ICESI, Colombia

Dr. Carlos Antonio Aguirre Rojas

Universidad Nacional Autónoma de México, México

Dr. Martino Contu

Universidad de Sassari, Italia

Dr. Luiz Alberto David Araujo

Pontificia Universidad Católica de Sao Paulo, Brasil

Dra. Patricia Brogna

Universidad Nacional Autónoma de México, México

REVISTA INCLUSIONES

REVISTA DE HUMANIDADES
Y CIENCIAS SOCIALES

Dr. Horacio Capel Sáez

Universidad de Barcelona, España

Dr. Javier Carreón Guillén

Universidad Nacional Autónoma de México, México

Dr. Lancelot Cowie

Universidad West Indies, Trinidad y Tobago

Dra. Isabel Cruz Ovalle de Amenabar

Universidad de Los Andes, Chile

Dr. Rodolfo Cruz Vadillo

*Universidad Popular Autónoma del Estado de Puebla,
México*

Dr. Adolfo Omar Cueto

Universidad Nacional de Cuyo, Argentina

Dr. Miguel Ángel de Marco

Universidad de Buenos Aires, Argentina

Dra. Emma de Ramón Acevedo

Universidad de Chile, Chile

Dr. Gerardo Echeita Sarrionandía

Universidad Autónoma de Madrid, España

Dr. Antonio Hermosa Andújar

Universidad de Sevilla, España

Dra. Patricia Galeana

Universidad Nacional Autónoma de México, México

Dra. Manuela Garau

Centro Studi Sea, Italia

Dr. Carlo Ginzburg Ginzburg

*Scuola Normale Superiore de Pisa, Italia
Universidad de California Los Ángeles, Estados Unidos*

Dr. Francisco Luis Girardo Gutiérrez

Instituto Tecnológico Metropolitano, Colombia

José Manuel González Freire

Universidad de Colima, México

Dra. Antonia Heredia Herrera

Universidad Internacional de Andalucía, España

Dr. Eduardo Gomes Onofre

Universidade Estadual da Paraíba, Brasil

CUADERNOS DE SOFÍA EDITORIAL

+ Dr. Miguel León-Portilla

Universidad Nacional Autónoma de México, México

Dr. Miguel Ángel Mateo Saura

*Instituto de Estudios Albacetenses "Don Juan Manuel",
España*

Dr. Carlos Tulio da Silva Medeiros

Diálogos em MERCOSUR, Brasil

+ Dr. Álvaro Márquez-Fernández

Universidad del Zulia, Venezuela

Dr. Oscar Ortega Arango

Universidad Autónoma de Yucatán, México

Dr. Antonio-Carlos Pereira Menaut

Universidad Santiago de Compostela, España

Dr. José Sergio Puig Espinosa

Dilemas Contemporáneos, México

Dra. Francesca Randazzo

*Universidad Nacional Autónoma de Honduras,
Honduras*

Dra. Yolando Ricardo

Universidad de La Habana, Cuba

Dr. Manuel Alves da Rocha

Universidade Católica de Angola Angola

Mg. Arnaldo Rodríguez Espinoza

Universidad Estatal a Distancia, Costa Rica

Dr. Miguel Rojas Mix

*Coordinador la Cumbre de Rectores Universidades
Estatales América Latina y el Caribe*

Dr. Luis Alberto Romero

CONICET / Universidad de Buenos Aires, Argentina

Dra. Maura de la Caridad Salabarría Roig

Dilemas Contemporáneos, México

Dr. Adalberto Santana Hernández

Universidad Nacional Autónoma de México, México

Dr. Juan Antonio Seda

Universidad de Buenos Aires, Argentina

Dr. Saulo Cesar Paulino e Silva

Universidad de Sao Paulo, Brasil

Dr. Miguel Ángel Verdugo Alonso
Universidad de Salamanca, España

Dr. Josep Vives Rego
Universidad de Barcelona, España

Dr. Eugenio Raúl Zaffaroni
Universidad de Buenos Aires, Argentina

Dra. Blanca Estela Zardel Jacobo
Universidad Nacional Autónoma de México, México

Comité Científico Internacional

Dra. Elian Araujo
Universidad de Mackenzie, Brasil

Mg. Romyana Atanasova Popova
Universidad Suroeste Neofit Rilski, Bulgaria

Dra. Ana Bénard da Costa
Instituto Universitario de Lisboa, Portugal
Centro de Estudios Africanos, Portugal

Dra. Noemí Brenta
Universidad de Buenos Aires, Argentina

Ph. D. Juan R. Coca
Universidad de Valladolid, España

Dr. Antonio Colomer Vialdel
Universidad Politécnica de Valencia, España

Dr. Christian Daniel Cwik
Universidad de Colonia, Alemania

Dr. Eric de Léséulec
INS HEA, Francia

Dr. Andrés Di Masso Tarditti
Universidad de Barcelona, España

Ph. D. Mauricio Dimant
Universidad Hebrea de Jerusalem, Israel

Dr. Jorge Enrique Elías Caro
Universidad de Magdalena, Colombia

Ph. D. Valentin Kitanov
Universidad Suroeste Neofit Rilski, Bulgaria

Mg. Luis Oporto Ordóñez
Universidad Mayor San Andrés, Bolivia

Dr. Gino Ríos Patio
Universidad de San Martín de Porres, Perú

Dra. María Laura Salinas
Universidad Nacional del Nordeste, Argentina

Dra. Jaqueline Vassallo
Universidad Nacional de Córdoba, Argentina

Dra. Maja Zawierzeniec
Universidad Wszechnica Polska, Polonia

Editorial Cuadernos de Sofía
Santiago – Chile
Representante Legal
Juan Guillermo Estay Sepúlveda Editorial

Indización, Repositorios y Bases de Datos Académicas

Revista Inclusiones, se encuentra indizada en:





REX



UNIVERSITY OF
SASKATCHEWAN



Universidad
de Concepción

BIBLIOTECA UNIVERSIDAD DE CONCEPCIÓN



**COMPARATIVE ANALYSIS OF EMOTIONAL PERSONALITY TRAITS OF THE STUDENTS
OF MARITIME SCIENCE MAJORS CAUSED BY LONG-TERM STAYING AT SEA**

Dr. Rosina Shevchenko

Odessa National Maritime University, Odessa, Ukraine

ORCID iD: <http://orcid.org/0000-0003-2515-6717>

Rosina7775@gmail.com

Dr. Ihor Popovych

Kherson State University, Ukraine

ORCID iD: <https://orcid.org/0000-0002-1663-111X>

ihorpopovych999@gmail.com

Dr. Liana Spytka

Volodymyr Dahl East Ukrainian National University, Ukraine

ORCID iD: <https://orcid.org/0000-0002-9004-727X>

floweroflife2025@gmail.com

Ph. D. Pavlo Nosov

Kherson State Maritime Academy, Ukraine

ORCID iD: <https://orcid.org/0000-0002-5067-9766>

pason@ukr.net

Ph. D. Serhii Zinchenko

Kherson State Maritime Academy, Ukraine

ORCID iD: <https://orcid.org/0000-0001-5012-5029>

srz56@ukr.net

Drdo. Vadym Mateichuk

Kherson State Maritime Academy, Ukraine

ORCID iD: <https://orcid.org/0000-0001-9328-0651>

mateichykv@gmail.com

Dr. Olena Blynova

Kherson State University, Ukraine

ORCID iD: <http://orcid.org/0000-0003-3011-6082>

elena.blynova@gmail.com

Fecha de Recepción: 30 de abril de 2020 – **Fecha Revisión:** 23 de mayo de 2020

Fecha de Aceptación: 28 de junio de 2020 – **Fecha de Publicación:** 01 de julio de 2020

Abstract

The paper examines the issue of emotional personality changes, occurring in the students of maritime and river transport majors caused by long-term staying at sea. The purpose of the research is to conduct comparative analysis of emotional personality states of the students of maritime and river transport majors before and after staying under conditions of long-term onboard training. Methods: observation, conversation with research participants, methods “MMPI” and “Beck Depression Inventory”. The paper substantiates that changes are caused by a number of physiological, climatic, social and other factors. It establishes correlation between the features of emotional personality state with the fact of long-term staying at sea in the students of the maritime and river transport major. By the scales “pessimism, depression” (D): 80 T-points in the group of the senior students, who did onboard training courses, 72 T-points in the group of the junior students, indicating their low mood, lack of self-confidence, caused by a high level of anxiety in the senior students.

Keywords

Depression – Adaptation – Extreme Conditions

Para Citar este Artículo:

Shevchenko, Rosina; Popovych, Ihor; Spyska, Liana; Bosov, Pavlo; Zinchenko, Serhii; Mateichuk, Vadym y Blynova, Olena. Comparative analysis of emotional personality traits of the students of maritime science majors caused by long-term staying at sea. Revista Inclusiones Vol: 7 num Especial (2020): 538-554.

Licencia Creative Commons Attribution Non-Comercial 3.0 Unported
(CC BY-NC 3.0)

Licencia Internacional



Introduction

A number of various global crisis problems are arising at the present stage of social development. Therefore, it is especially important to search for new possibilities for adaptation of humans and resources to solve them efficiently. High innovative technologies in maritime and river transport are one of constructive methods, requiring special attention¹.

Consequently, the task of considering positive factors, affecting professional growth of an individual and achievement of high professional awareness² becomes topical. Additionally, the task of examining negative factors, accompanying individuals in their professional activity³ is topical as well. Negative factors have a negative impact on professional health of sailors and their personality traits⁴.

Thus, the topicality of this research consists in comparative analysis of emotional personality traits of the students of maritime science majors caused by long-term staying at sea. The task to determine the features of psychological adaptation of ship crew under extreme working conditions is also considered as an important task. It is well known that such conditions often cause professional deformations and psychosomatization⁵.

Many scientists have been interested in the issue of emotional personality changes occurring in sailors as a result of long-term staying at sea⁶.

The urgent necessity of investigating the issues of sailors' health conditions has been emphasized among the topical medical and biological tasks. In our opinion, such attention is explained by working conditions of sailors, performing their professional duties under harsh conditions at sea⁷. Having analyzed the factors having a negative impact on sailors' working conditions, we distinguished the major ones. They are nature factors: temperature, physical and chemical properties of air, photoperiod fluctuations. We prove that high

¹ R. P. Shevchenko, "Acmeological approach to the analysis of adaptation potential disorders of students of the maritime and river transport major", *Psychology and social work*, Vol: 21 num 1 (2019): 133-142.

² V. Olefir; M. Kuznetsov & V. Plokhikh, "Effect of physical exercises and perceived stress interaction on students' satisfaction with life", *Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports*, Vol: 23 num 1 (2019): 30-35; I. S. Popovych, *Psychological dimensions of social expectations of personality* (Kherson: KTPH, 2017) y I. S. Popovych, "The role of social and psychological expectations in professional growth and personality development", *Philosophy, Sociology, Psychology*, Vol: 20 num 2 (2015): 213-220.

³ V. V. Zheglov; F. M. Semjonov & V. I. Kasatkin, V. I. "Increasing sailors' disease tolerance", *Marine collection of works*, num 7 (1984), (2012): 47-51.

⁴ D. E. Trankovskij, "Working conditions and professional morbidity of transport workers in the Primorye", *Health. Medical ecology*, num 4 Vol: 58 (2013): 111-113.

⁵ R. P. Shevchenko, "Symptoms of adaptation disorders in force-majeure situations in students of the maritime and river transport major under conditions of long-term staying at sea", *Psihologie. Pedagogie specială. Asistența socială*, num 2 Vol: 55 (2019): 84-91.

⁶ V. L. Arhipovskij & E. V. Kazakevich, "Organizational aspects of the activity of the medical prophylaxis department aimed at improving health of river transport workers", *Ecology of a human*, num 12 (2007): 48-52; A. I. Eremeeva, *The research on individual psychological traits of navigators in the aspect of preventive and psychological tasks. Psycho-hygiene and psycho-prophylactics* (Leningrad: Piter, 1983) y V. I. Reshnjak; A. G. Shhurov & O. V. Vitjazeva, "Professional activity of fleet workers under conditions of chrono-physiological adaptation", *The bulletin of the State University of the Maritime and River Fleet named after the Admiral S. O. Makarov*, num 6 Vol: 28 (2014): 20-24.

⁷ V. L. Arhipovskij & E. V. Kazakevich, "Organizational aspects..."

requirements to homeostatic systems of sailors' organisms can cause the development of premonitory and pathological states.

Members of ship crews are affected by a number of unfavorable factors caused by specific character of work of ship crews. Firstly, they are swaying, vibration, noise and extreme navigation conditions. Under swaying an individual undergoes four types of accelerations: linear, off-center, angular and Coriolis. Swaying may cause problems with coordination of body movement. Noise leads to changes in physiological and psychological processes of an individual, especially in intellectual work, it prevents from understanding and following directions, causes problems with twilight and night vision, malfunction of the vestibular system and leads to untimely fatigue of crew members. The study determines that there are disorders of muscle mechanisms, an increase in common metabolism and a decrease in visual acuity under vibration. Under vibration with the frequency of 38 Hz, visual acuity decreases by 25.0%. A long-term impact of vibration causes exhaustion and headache. Moreover, ship crews experience the impact of sharp changes in temperature, atmospheric pressure, changes of time and climate zones, the impact of electromagnetic fields, separation from families, physiological restrictions, lack of impressions, monotonous work, tension caused by high responsibility and communication scarcity. The effect of these factors is intensified by extreme navigation conditions in the most dangerous areas of the route – in narrow and shallow areas. All these lead to continuous mental strain. In most cases overtired and disoriented crew members cannot make the right decisions, even if they seem simple⁸.

Other scientists consider jet lag among the reasons, damaging physiological and social components of an individual's vital functions⁹. Special attention should be paid to prevention of disadaptation disorders during long-time staying at sea. We offer recommendations for optimizing professional activity of sailors under conditions of chronophysiological adaptation.

We consider the method of preliminary arrangement of sailors' daily routine corresponding to a new time zone to be of special scientific interest. Practical value of the approaches offered by the authors is reflected in the examination of efficiency of physical exercises, sleep and vigilance patterns and dietary regimes in adaptation mechanisms of sailors. In our opinion, these methods activate reserve physiological capacities of an organism and assist in faster adaptation.

Another study proves specific features of maritime work, explained by the impact of climate and geographical factors¹⁰. Endocrine disorders in sailors caused by long-term staying at sea have been examined. The necessity of high-quality healthcare for sailors has been highlighted¹¹.

⁸ S. Zinchenko; A. Ben; P. Nosov; I. Popovych; P. Mamenko & V. Mateychuk, "Improving Accuracy and Reliability in Automatic Ship Motion Control Systems", *Radio Electronics, Computer Science, Control*, num 2 (2020): 189-201.

⁹ V. I. Reshnyak; A. G. Shhurov & O. V. Vitjazeva, "Professional..."

¹⁰ R. P. Shevchenko, "Sub-depressive state in students of higher education institutions of the maritime and river transport major", *Psychology: reality and prospects*, num 12 (2019): 248-254.

¹¹ R. P. Shevchenko, "Pathogenic factors under working conditions of workers in maritime and river transport", *Medical psychology*, num 4 (2018): 71-75.

We consider the research on adaptive reactions of sailors' organisms in the dynamics of long-term staying at sea to be of considerable scientific interest¹². It presents the evaluation of changes in sailors' organisms by the data of central hemodynamics and a factor pattern of a recovery period of a functional test. The study establishes that leading malfunction of efficient mind adaptation in the first month at sea caused changes in functional condition of a cardiovascular system and lead to a decrease in its functional capacities in the second month at sea.

The paper by A. Ishekov and I. Mosjagin presents the research on stabilometric parameters in sailors under extreme weather conditions¹³. The data, showing that at the beginning of their sailing the crew members participating in the research were more resistant to seasickness when compared to the members of the expedition, are interesting in a scientific context. The practical value of the research consists in the examination of adaptive capacities of the cardiovascular apparatus under tough conditions of the arctic sailing.

Therefore, the study of emotional personality traits of sailors has important scientific, occupational, social and psychological aspects. Within the framework of this problem, the issue of emotional personality state of students, pursuing a degree in maritime science majors, and also the examination of changes in their emotional personality state after a long-term (more than three months) onboard training course is especially acute.

We assume that comparative analysis of psychological content emotional personality parameters of the respondents before and after staying under conditions of a long-term onboard training course will allow obtaining new scientific facts to operationalize in professional training of sailors.

The purpose of the research is to do comparative analysis and interpret emotional personality state of students pursuing a degree in maritime and river transport majors to and after staying under conditions of a long-term onboard training course.

Methodology and methods

Methodological foundations of our research in the context of interpreting emotional personality state of the students of maritime and river transport majors before and after staying under conditions of a long-term onboard training course are an approved set of successive measures with the use of psycho-diagnostic instruments. This methodology was tested by the scientists while examining distantiation, anxiety and adaptation disorders in students under conditions of long-term staying at sea¹⁴, sensor regulation in situations of

¹² F. A. Shherbina, "Adaptive reactions of the organisms of sailors of the fishing fleet in the dynamics of 75-day staying at sea", The bulletin of the Northern (Arctic) Federal University, num 3 (2014): 91-99.

¹³ A. N. Ishekov & I. G. Mosjagin, "Indexes of stabilometrics in the dynamics of arctic sailing", The world of science, culture and education, num 4 Vol: 41 (2013): 355-358.

¹⁴ R. P. Shevchenko, "Emotional distantiation in the students of maritime and river transport majors", Psihologie. Pedagogie specială. Asistența socială, num 1 Vol: 49 (2018): 52-59; R. P. Shevchenko, "Reactive and personality anxiety in the students of maritime and river transport majors". The juridical bulletin of the University "KROK", num 32 (2018): 170-175 y R. P. Shevchenko, "Phenomenology of adaptation disorders in students under conditions of long-term staying at sea", Psihologie, revista științifico-practică, num 1-2 Vol: 34 (2019): 18-25.

uncertainty¹⁵, motivation of professional development of future specialists in different professions¹⁶ and also in the research on mental states of expectations in different activities¹⁷. All the above mentioned experimental and empirical studies contained the elements of the research on adaptation, anxiety, motivation and self-regulation.

Participants

In order to investigate emotional personality traits in students of the marine and river transport major before and after long-term staying at sea, we formed groups of junior students (the first-second years of study) and senior students after doing an onboard training course (the third–fourth years of study) of Odessa National Marine University and Kherson State Marine Academy. In total 104 students took part in the research. The research was conducted under information agreement on the part of the research participants, following the standards of ethics and bioethics. The average age of the sample was 20.9 years (SD = 2.11).

Instruments

The following methods were used in the course of empirical work: observation, conversation, the methods “MMPI”¹⁸, “Beck *Depression* Inventory”¹⁹.

The method of observation allowed describing the stages and characteristics of the research process, making purposeful records of behavior and mental phenomena of the research object aimed at examining it under certain conditions.

¹⁵ I. Popovych; I. Halian; O. Halian; I. Burlakova; Iy. Serbin; M. Toba; N. Buhaiova & Yu. Bokhonkov, “Sensory Regulation of Future Teachers in a Situation of Uncertainty”, *Revista Espacios*, Vol: 41 num 2 (2020).

¹⁶ I. M. Halian, “Personal determinants of responsibility of future educators”, *Insight: the psychological dimensions of society*, num 1 (2019): 15-21; I. Popovych; L. Lymarenko; N. Tereshenko; T. Kornisheva; O. Yevdokimova; A. Koverznieva y M. Aleksieieva, “Research on the Effectiveness of Training Technologies’ Implementation in Student Theater”, *Revista Inclusiones*, Vol: 7 num 2 (2020): 104-121; I. Popovych; O. Blynova; M. Aleksieieva; P. Nosov; N. Zavatska y O. Smyrnova, “Research of Relationship between the Social Expectations and Professional Training of Lyceum Students studying in the Field of Shipbuilding”, *Revista Espacios*, Vol: 40 num 33 (2019) y I. S. Popovych; V. V. Cherniavskiy; S. V. Dudchenko; S. M. Zinchenko; P. S. Nosov; O. O. Yevdokimova; O. O. Burak & V. M. Mateichuk, “Experimental Research of Effective “The Ship’s Captain and the Pilot” Interaction Formation by Means of Training Technologies”, *Revista espacios*, Vol: 41 num 11 (2020).

¹⁷ V. V. Khmil & I. S. Popovych, “Philosophical and Psychological Dimensions of Social Expectations of Personality”, *Anthropological Measurements of Philosophical Research*, num 16 (2019): 55-65; I. Popovych; O. Blynova; A. Zhuravlova; M. Toba; T. Tkach & N. Zavatska, “Optimization of development and psycho-correction of social expectations of students of foreign philology”, *Revista Inclusiones*. Vol: 7 num Especial (2020): 82-94; I. Popovych; A. Borysiuk; L. Zahrai; O. Fedoruk; P. Nosov; S. Zinchenko y V. Mateichuk, “Constructing a Structural-Functional Model of Social Expectations of the Personality”, *Revista Inclusiones*, Vol: 7 num Especial (2020): 154-167 y I. Popovych; O. Kononenko; A. Kononenko; V. Stynska; N. Kravets; L. Piletska y O. Blynova, “Research of the Relationship between Existential Anxiety and the Sense of Personality’s Existence”, *Revista Inclusiones*, Vol: 7 num Especial (2020): 41-59.

¹⁸ L. N. Sobchik, *Standardized multi-factor method of personality investigation MMPI* (St. Petersburg: Rech, 2000).

¹⁹ A. T. Beck, et al. “An Inventory for Measuring Depression”, *Archives of general psychiatry*, num 4 Vol: 6 (1961): 561-571. DOI: 10.1001/archpsyc.1961.01710120031004 y L. F. Burlachuk & S. M. Morozov, *Словарь-справочник по психодиагностике* (St. Petersburg: Piter, 2001).

Conversations with the research participants made it possible to collect additional data on the specificity of feelings and attitudes of the students of the maritime and river transport major taking part in the research.

The method “MMPI”²⁰, the psycho-diagnostic method, including 566 questions, was used to investigate individual features and mental states of personality within the framework of the interaction with the students of the diagnostic group. We used the following basic clinical scales: the scale of hypochondria (HS) – to determine “proximity” of future sailors to the astheno-neurotic type of personality; the scale of *depression* (D) – to determine the degree of the respondents’ subjective *depression* and the degree of moral discomfort; the scale of hysteria (Hy) – to identify individuals inclined to neurotic reactions of the conversion type; the scale of psychopathy (Pd) – to determine the tendency of sailors to the sociopathic personality type; the scale of masculinity / femininity (MF) – to measure the degree a respondent’s identification with the role of a man or a woman; the scale of paranoia (Pa) – to identify the availability of “overvalued” ideas, suspiciousness (corresponding to the paranoid personality type); the scale of psychasthenia (Pt) – to identify resemblance of the research participants with patients suffering from phobias (corresponding to the anxious-hypochondriac personality type); the scale of schizophrenia (Sc) – to diagnose the schizophrenic (autistic) personality type; the scale of hypomania (Ma) – to measure the degree of “proximity” of the research participants to the hyperthymic personality type; the scale of social introversion (Si) – to measure the degree of correspondence to the introverted personality type. The scale of social introversion (Si) was not referred to the clinical type of scales.

We also used rating scales: the scale of “lie” (L) – to determine sincerity of our respondents; the scale of reliability (F) – to detect unreliable results, related to a respondent’s carelessness, and also pathomimicry and simulation; the scale of correction (K) – to level distortions, caused by excessive unattainability and caution of the future sailors. The method “Beck *Depression Inventory*”²¹ contains twenty-one questions-statements of the most frequent symptoms and complaints.

Each item of the questionnaire consisted of 4-5 statements, corresponding to specific manifestations and *depression* symptoms. These statements are ranked according to an increase in the share of a symptom in the total severity of *depression* that made it possible to study this phenomenon in our respondents thoroughly.

Organization of Research

We consider that organizing and conducting research at the stage of professional training of the students of the maritime and river transport major to be timely and reasonable. Such research has a powerful preventive effect. The professions of maritime and river transport are characterized by very specific working conditions. An individual should be adapted to live and work under conditions of long-term isolation, extreme and critical situations²².

²⁰ L. N. Sobchik, Standardized multi-factor ...

²¹ A. T. Beck, et al. “An Inventory for Measuring Depression...”

²² P. S. Nosov; A. P. Ben; V. N. Mateichuk & M. S. Safonov, “Identification of ‘Human error’ negative manifestation in maritime transport”, Radio Electronics, Computer Science, Control. Zaporizhzhia National Technical University, num 4 Vol: 47 (2018): 204-213; P. Nosov; A. Ben; A. Safonova & I. Palamarchuk, “Approaches going to determination periods of the human factor of navigators during DR. ROSINA SHEVCHENKO / DR. IHOR POPOVYCH / DR. LIANA SPYSKA / PH. D. PAVLO NOSOV / PH. D. SERHII ZINCHENKO DRDO. VADYM MATEICHUK / DR. OLENA BLYNOVA

This activity is accompanied by stress accumulation, emergence and development of psychosomatic disorders. We should understand that under such critical working conditions, individuals master their professional skills and achieve their “acme”.

The research was carried out at Odessa National Marine University and Kherson State Marine Academy. The research process involved examining: 46 individuals – the junior students, 58 individuals – the senior students after a long-term (more than three months) onboard training course.

The procedure of empirical research implied ascertaining experiment. We determined psychological content parameters by means of the methods: “MMPI” and “Beck Depression Inventory”. Participation of the respondents in the research was voluntary and confidential, that ensured no causal response.

The research is conducted according to ethical standards of committee on the rights of experiments of Helsinki declaration²³.

Statistical Analysis

Statistical processing of the empirical data and graphical presentation of the results were performed by means of the statistical programs “SPSS” v. 23.0 and “Microsoft Office Excel 2007”. Differences between values of parameters at level $p \leq 0.05$ and $p \leq 0.01$ considered statistically significant.

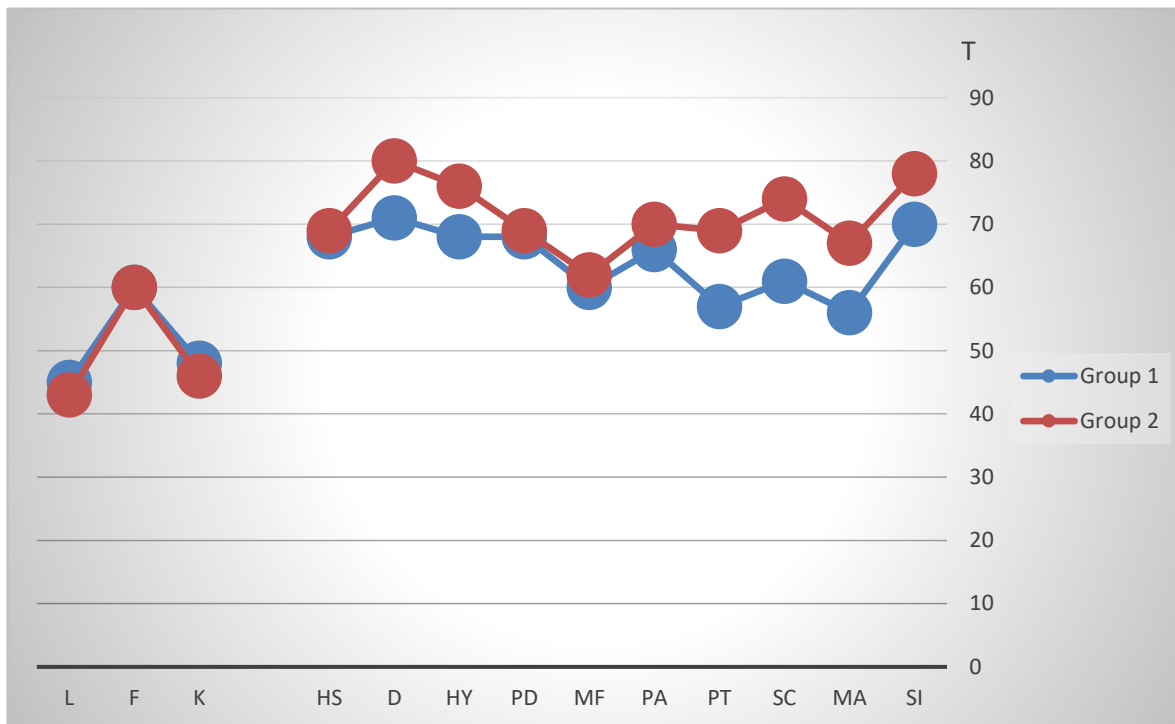
Results and Discussion

Analyzing the obtained results, it is necessary to mention the correlation of the availability of disadaptation elements in the respondents’ emotional personality state with the fact of long-term staying at sea. The necessity of further research of the chosen group of respondents is proved by high points by a number of indexes.

The results obtained in the process of examining the students ($n=104$) of the diagnostic group are reflected in Fig 1.

supernumerary situations”, Radio Electronics, Computer Science, Control, num 2 Vol: 49 (2019): 140-150 y S. Zinchenko; P. Nosov; V. Mateichuk; P. Mamenko; I. Popovych & O. Grosheva, “Automatic collision avoidance system with many targets, including maneuvering ones”, Bulletin of university of Karaganda, Vol: 96 num 4 (2019): 69-79. DOI: 0.31489/2019Ph4/69-79.

²³ “WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects”. 2013.



Note: T – average indexes converted into T-points; Group 1 – junior students; Group 2 – senior students; L – the scale of “lie”; F – the scale of reliability; K – the scale of correction; HS – the scale of hypochondria; D – the scale of *depression*; Hy – the scale of hysteria; Pd – the scale of psychopathy; MF – the scale of masculinity / femininity; max Pa – the scale of paranoia; Pt – the scale of psychasthenia; SC – the scale of schizophrenia; MA – the scale of hypomania; max SI – the scale of social introversion.

Figure 1

Profiles of the students of the maritime and river transport major – the junior students and the senior students after long-term staying at sea (by the results of the methods “MMPI”)

The results obtained by the scales “L”, “F”, “K” prove the reliability of the research results.

Analyzing the average profile of the research participants, it is necessary to emphasize the highest point by the scale “pessimism, *depression*” (D): 80 T-points in the group of the senior students after an onboard training course, 72 T-points in the group of the junior students. These indexes show much more distinct low mood in the emotional personality structure of the senior students. In a number of cases lack of self-confidence in the research participants is caused by high anxiety, more characteristic of the senior students after long-term staying at sea. In their turn, symptoms of disadaptation cause heightened sensitivity to everything happening to an individual and touchiness. In a number of cases vulnerability leads to low stress tolerance and in some cases – to low load tolerance. The research participants mentioned that sometimes they were not able to evaluate a situation quickly and hold attention²⁴, to make quick and timely decisions. According to our observation, that was more characteristic of the senior students after long-

²⁴ P. Nosov; I. Palamarchuk; S. Zinchenko; I. Popovych; Y. Nahrybelnyi & H. Nosova, “Development of means for experimental identification of navigator attention in ergatic systems of maritime transport”, *Bulletin of University of Karaganda. Technical Physics*, num 1 Vol: 97 (2020): 58-69.

term staying at sea. The identified emotional personality traits reflect the dominance of the passive personality position. A high level of awareness of the problems makes adaptation mechanisms weaker in a number of cases that was detected mainly in the senior students after long-term staying at sea in the research process.

The average profile of the research participants by the scale “social introversion” (Si): 77 T-points in the group of the senior students after an onboard training course, 71 T-points in the group of the junior students show inclination to limit social contacts in the respondents’ emotional personality structure. This information is more characteristic of the senior students after doing a training course. In our opinion, difficulties in making social contacts are caused by long-term staying under conditions of limited communication. When an individual is forced to stay under conditions of a limited space, communication with the same people leads to certain passiveness of a personality position, their reflections, evaluations and interests are introspected and oriented towards internal feelings. That is substantiated in the fundamental studies on psychology of social expectations²⁵.

According to our observation, lack of objective possibility to change statuses and social roles played daily causes certain reserve in the situation of long-term staying at sea. In a number of cases such “reticence” on the part of an individual is explained by unwillingness to admit others to their own internal world, by the desire to conceal the specificity of their own character from others. The intention to avoid discomfort in communication sometimes leads to the position of a “hermit”²⁶. An individual consciously chooses the position of “non-interference” when making social contacts.

The research results of the students of the maritime and river transport major by the method “Beck *Depression Inventory*”²⁷ are reflected in Tabl. 1.

Level	Group 1 (n=46)		Group 2 (n=58)		Criterion ϕ^*
	M	%	M	%	
High	4	8.69	6	10.34	.27
Medium	8	17.39	19	32.75	1.81
Low	26	56.52	27	46.55	1.00
Absent	8	17.39	6	10.34	1.05

Note: M – arithmetic mean; Group 1 – junior students; Group 2 – senior students; * – difference in the indexes between Research Group 1 and Research Group 2 by the criterion ϕ – Fisher’s angular transformation is reliable ($p_\phi < .05$)

Table 1

Indexes of subjective *depression* in the students of the maritime and river transport major by the method “Beck *Depression Inventory*”

Analyzing the research results, we should emphasize higher indexes by the scales of the method in the mental and emotional state of the senior students of the maritime and river transport major.

²⁵ I. S. Popovych, Psychological dimensions of social...

²⁶ P. S. Nosov; I. V. Palamarchuk; M. S. Safonov & V. I. Novikov, “Modeling the manifestation of the human factor of the maritime crew”, Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan (Dnipro), num 5 Vol: 77 (2018): 82-92.

²⁷ A. T. Beck, et al. “An Inventory for Measuring Depression...”

According to the data of the comparative analysis of the average profiles of the research participants by the method “MMPI” and the indexes by the method “Beck *Depression Inventory*”, there is an increase in mental and emotional problems in the senior students. For instance, according to the data by the method “Beck *Depression Inventory*” 17.39% of the respondents of Group 1, including the junior students, manifested no distinct symptoms of *depression* by the subjective scale. We have a similar index in Group 2, including the senior students after doing an onboard training course, being 10.34% of the total number of the research participants. According to the data by the method “MMPI”, by the scale “*depression*” (D), reflecting the degree of subjective *depression*, the senior students showed more negative indexes: 72 T-points in the junior students, 80 T-points in the students after a long-term onboard training course by this scale.

The students entering the category “without distinct symptoms of *depression*” (17.39% of the respondents in Group 1 and 10.34% of the respondents in Group 2) mentioned in the course of the conversation that they did not usually feel sad. Evaluating the development of their life prospects, they did not feel depressed and disappointed. Analyzing their professional and personal prospects, they considered themselves as those fulfilling their potential. Comparing their success to that of the individuals of their age, this category of students emphasized more prospects for their career development. Evaluating the degree of communication importance, the respondents mentioned that they needed active interaction and communication with others. They felt confident in a decision making process.

Evaluating rightness of their decisions, the students of this diagnostic group seldom feel guilty and unsatisfied. The respondents mentioned that they did not experience the states of groundless anxiety because of their appearances and the impression they made on others. Describing their work efficiency, they mentioned that they worked as well at that time as they did before, they did not see any objective reasons for a decrease in their work efficiency and they could work as productively as they did before. They did not feel disappointed in themselves, in their success, their own achievements. They mentioned that they never thought about doing physiological or emotional harm to themselves.

Evaluating the level of their vitality, the students of this group mentioned that they did not feel tired every day. In the course of the conversation they considered the level of their work efficiency to be quite stable. Evaluating their appetite, they emphasized that their metabolism was normal and their appetite was good. According to the research results by means of the method “Beck *Depression Inventory*”, a low degree of *depression*, by a subjective evaluation, was identified in 56.52% of the respondents of Group 1 including the junior students and in 46.55% of the respondents of Group 2 including the senior students after a long-term onboard training course. These indexes indicate that the senior students feel sad and gloomy after a training course at see more often than the junior students.

While evaluating their prospects, the senior students with the experience of an onboard training course were more inclined to pessimistic evaluation of their life prospects. In the course of the conversation they evaluated their further career path, the way of life, related to leaving home periodically, impossibility of full-blown emotional contacts with their families and relatives with some skepticism.

Evaluating their future possibilities, the junior students talked about positive life prospects and success with optimism more often than the senior students with the experience of an onboard training course did.

The senior students with the experience of an onboard training course mentioned that they had fewer communication possibilities and less need of active communication more often than the junior students did. They emphasized that needed active contacts with others less than they did before.

While evaluating their resolution in the issues concerning their everyday routine and long-term life prospects, the senior students after an onboard training course, felt indecisive, they needed more time to think them over and consider them carefully more often than the junior students did. The research shows that the junior students doubted about their appearances more seldom than the senior students with the experience of an onboard training course. When evaluating their optimism, the senior students talked about their possibilities with more skepticism than the junior students did. While evaluating their attitude towards their personality, the junior students mentioned their positive traits more often than the senior students with the experience of an onboard training course did. They talked about their talents and prospects with criticism more seldom.

The research results show that the senior students after an onboard training course mentioned the scarcity of life resources to solve everyday problems more often than the junior students did. They emphasized that they needed to renew their vitality in the course of the day.

The senior students after an onboard training course were disappointed by their evaluations more often than the junior students did. They mentioned that they got tired more quickly, felt less energetic and needed to seek their internal resources. Evaluating their basic life needs, the senior students talked about their poor appetite more often than the junior students did.

A medium degree of *depression*, by a subjective evaluation, being statistically reliable ($p_{\varphi} < .05$), was more characteristic of the senior students after an onboard training course, than of the junior students: in 17.39% of the respondents of Group 1 and in 32.75% of the respondents of Group 2.

However, according to our observation, some senior students are inclined to certain focusing on the words said and the actions done. Without a chance to change the past events, they kept pondering those events and circumstances.

Too severe attitude towards themselves was identified in the senior students after an onboard training course in their poor satisfaction with the things happening to them. Evaluating more strictly than the junior students, these research participants often felt guilty for not meeting the requirements because of placing too high demands on themselves and others.

As a result, these psychophysiological characteristics led to the development of asthenization manifesting itself in poor appetite and fatigability caused by small efforts of psychological and physiological nature. A high level of *depression*, by a subjective evaluation, was identified in 8.69% of the respondents of Group 1 and in 10.34% of the respondents of Group 2.

The obtained data indicate the state of *depression* and melancholy, more characteristic of the senior students with the experience of an onboard training course than of the junior students. They were more inclined to critical evaluations of their life prospects.

Emotional distantiation and lack of the need to communicate with others were less characteristic of the junior students of this diagnostic category.

Inability to make quick and timely decisions concerning the important issues in social and personal areas was more characteristic of the senior students with the experience of an onboard training course among the research participants of this category.

Evaluating their attractiveness in social and psychological aspects, the junior students showed less negativism in this diagnostic group.

General psychophysiological asthenization manifested itself in regular poor appetite and high fatigability caused by small efforts of psychological and physiological nature.

The problem of emotional personality changes occurring in sailors as a consequence of long-term staying at sea is caused by a number of physiological, climatic, social and other factors. Examination of these issues is reflected in a number of studies.²⁸ At the same time comparative analysis of the emotional personality state of students of the maritime and river transport before and after a long-term onboard training course has not been studied thoroughly and can be a promising area for further research.

Conclusions

1) The obtained results prove that the senior students after long-term-staying at sea experience low mood, lack of self-confidence and a high level of anxiety more often than the junior students do.

2) Higher sensitivity, excessive vulnerability, low tolerance of mental strain and physical loads cause the development of disadaptation that was less characteristic of the junior students. According to our observations, inability to evaluate a situation quickly and make timely decisions was mentioned more often by the senior students after long-term staying at sea.

3) Long-term staying in a “closed staff”, under conditions of limited communication and scarcity of impressions results in reticence, unwillingness to admit others to their internal world and the desire to conceal their character traits from others characteristic of the students of this diagnostic group.

4) These characteristics of the emotional personality traits of the students of the maritime and river transport major prove the necessity to investigate the outlined problems more thoroughly, to develop a system of measures aimed at maintaining not only physical, but also mental health of sailors.

5) The correlation of the elements of disadaptation with the fact of long-term staying at sea stipulates the necessity of further research on emotional personality traits of students of the maritime and river transport major.

6) We maintain that comparative analysis of psychological content emotional personality parameters of future sailors before and after a long-term onboard training course allowed collecting interesting scientific facts advisable to use in professional training of sailors that confirms our hypothesis.

²⁸ V. I. Ivanov, “Prophylactics of cardio-vascular diseases in the practice of a ship doctor”, Marine collection of works, num 6 (1995): 65-68; R. P. Shevchenko, “Sub-depressive state in students of higher education institutions of the maritime and river transport major”, Psychology: reality and prospects, num 12 (2019): 248-254 y O. V. Strelkova, “Psychological aspects of sailors’ professional activity”, The bulletin of Emmanuel Kant Baltic University, num 5 (2010): 45-51.

Acknowledgments

The research was conducted within the framework of the fundamental scientific and practical theme of the Department of Practical Psychology of Odessa National Maritime University, the state registration number is 0119U002263 and theme of the Department of General and Social Psychology of Kherson State University, the state registration number is 0119U101096.

References

Arhipovskij, V. L. & Kazakevich, E. V. "Organizational aspects of the activity of the medical prophylaxis department aimed at improving health of river transport workers". Ecology of a human, num 12 (2007): 48-52

Beck, A. T. et al. "An Inventory for Measuring Depression". Archives of general psychiatry, num 4 Vol: 6 (1961): 561-571. DOI: 10.1001/archpsyc.1961.01710120031004

Burlachuk, L. F. & Morozov, S. M. The dictionary-manual on psycho-diagnostics. St. Petersburg: Piter. 2001.

Eremeeva, A. I. The research on individual psychological traits of navigators in the aspect of preventive and psychological tasks. Psycho-hygiene and psycho-prophylactics. Leningrad: Piter. 1983.

Halian, I. M. "Personal determinants of responsibility of future educators". Insight: the psychological dimensions of society, num 1 (2019): 15-21. DOI: 10.32999/2663-970X/2019-1-2

Ishekov, A. N. & Mosjagin, I. G. "Indexes of stabilometrics in the dynamics of arctic sailing". The world of science, culture and education, num 4 Vol: 41 (2013): 355-358.

Ivanov, V. I. "Prophylactics of cardio-vascular diseases in the practice of a ship doctor". Marine collection of works, num 6 (1995): 65-68.

Khmil, V. V. & Popovych, I. S. "Philosophical and Psychological Dimensions of Social Expectations of Personality". Anthropological Measurements of Philosophical Research, num 16 (2019): 55-65. DOI: <https://doi.org/10.15802/ampr.v0i16.187540>

Nosov, P. S.; Ben, A. P.; Mateichuk, V. N. & Safonov, M. S. "Identification of 'Human error' negative manifestation in maritime transport". Radio Electronics, Computer Science, Control. Zaporizhzhia National Technical University, num 4 Vol: 47 (2018): 204-213. DOI: 10.15588/1607-3274-2018-4-20

Nosov, P.; Ben, A.; Safonova, A. & Palamarchuk, I. "Approaches going to determination periods of the human factor of navigators during supernumerary situations". Radio Electronics, Computer Science, Control, num 2 Vol: 49 (2019): 140-150. DOI: 10.15588/1607-3274-2019-2-15

Nosov, P.; Palamarchuk, I.; Zinchenko, S.; Popovych, I.; Nahrybelnyi, Y. & Nosova, H. "Development of means for experimental identification of navigator attention in ergatic systems of maritime transport". Bulletin of University of Karaganda. Technical Physics", num 1 Vol: 97 (2020): 58-69. DOI: 10.31489/2020Ph1/58-69

Nosov, P. S.; Palamarchuk, I. V.; Safonov, M. S. & Novikov V. I. "Modeling the manifestation of the human factor of the maritime crew". Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan (Dnipro), num 5 Vol: 77 (2018): 82-92. DOI: 10.15802/stp2018/ 147937

Olefir, V.; Kuznetsov, M. & Plokhikh, V. "Effect of physical exercises and perceived stress interaction on students' satisfaction with life". Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports, Vol: 23 num 1 (2019): 30-35. Retrieved from: <https://doi.org/10.15561/18189172.2019.0105>

Popovych I.; Blynova, O.; Aleksieieva M.; Nosov P.; Zavatska N. & Smyrnova O. Research of Relationship between the Social Expectations and Professional Training of Lyceum Students studying in the Field of Shipbuilding. Revista Espacios, Vol: 40 num 33 (2019).

Popovych, I.; Blynova, O.; Zhuravlova, A.; Toba, M.; Tkach, T. & Zavatska, N. "Optimization of development and psycho-correction of social expectations of students of foreign philology". Revista Inclusiones. Vol: 7 num Especial (2020): 82-94.

Popovych, I.; Borysiuk, A.; Zahrai, L.; Fedoruk, O.; Nosov, P.; Zinchenko, S. & Mateichuk, V. "Constructing a Structural-Functional Model of Social Expectations of the Personality". Revista Inclusiones, Vol: 7 num Especial (2020): 154-167.

Popovych, I. S.; Cherniavskiy, V. V.; Dudchenko, S. V.; Zinchenko, S. M.; Nosov, P. S.; Yevdokimova, O. O.; Burak, O. O. & Mateichuk, V. M. Experimental Research of Effective "The Ship's Captain and the Pilot" Interaction Formation by Means of Training Technologies. Revista Espacios, Vol: 41 num 11 (2020).

Popovych, I. S.; Halian, I. M.; Halian, O. I.; Burlakova, I. A.; Serbin, Iy. V.; Toba, M. V.; Buhaiova, N. M. & Bokhonkova, Yu. A. Sensory Regulation of Future Teachers in a Situation of Uncertainty. Revista Espacios, Vol: 41 num 2 (2020).

Popovych, I.; Kononenko, O.; Kononenko, A.; Stynska, V.; Kravets, N.; Piletska, L. & Blynova, O. "Research of the Relationship between Existential Anxiety and the Sense of Personality's Existence". Revista Inclusiones, Vol: 7 num Especial (2020): 41-59.

Popovych, I.; Lymarenko, L.; Tereshenko, N.; Kornisheva, T.; Yevdokimova, O.; Koverznieva, A., & Aleksieieva, M. "Research on the Effectiveness of Training Technologies' Implementation in Student Theater". Revista Inclusiones, Vol: 7 num 2 (2020): 104-121.

Popovych, I. S. Psychological dimensions of social expectations of personality. Kherson: KTPH. 2017.

Popovych, I. S. "The role of social and psychological expectations in professional growth and personality development". Philosophy, Sociology, Psychology, Vol: 20 num 2 (2015): 213-220.

Reshnjak, V. I.; Shhurov, A. G. & Vitjazeva, O. V. "Professional activity of fleet workers under conditions of chrono-physiological adaptation". The bulletin of the State University of the Maritime and River Fleet named after the Admiral S. O. Makarov, num 6 Vol: 28 (2014): 20-24.

Shevchenko, R. P. "Acmeological approach to the analysis of adaptation potential disorders of students of the maritime and river transport major". Psychology and social work, Vol: 21 num 49 (2019): 133-142.

Shevchenko, R. P. "Emotional distantiation in the students of maritime and river transport majors". Psihologie. Pedagogie specială. Asistența socială, num 1 Vol: 49 (2018): 52-59.

Shevchenko, R. P. "Phenomenology of adaptation disorders in students under conditions of long-term staying at sea". Psihologie, revista științifico-practică, num 1-2 Vol: 34 (2019): 18-25.

Shevchenko, R. P. "Pathogenic factors under working conditions of workers in maritime and river transport". Medical psychology, num 4 (2018): 71-75.

Shevchenko, R. P. "Symptoms of adaptation disorders in force-majeure situations in students of the maritime and river transport major under conditions of long-term staying at sea". Psihologie. Pedagogie specială. Asistența socială, num 2 Vol: 55 (2019): 84-91.

Shevchenko, R. P. "Sub-depressive state in students of higher education institutions of the maritime and river transport major". Psychology: reality and prospects, num 12 (2019): 248-254.

Shevchenko, R. P. "Reactive and personality anxiety in the students of maritime and river transport majors". The juridical bulletin of the University "KROK", num 32 (2018): 170-175.

Shherbina, F. A. "Adaptive reactions of the organisms of sailors of the fishing fleet in the dynamics of 75-day staying at sea". The bulletin of the Northern (Arctic) Federal University, num 3 (2014): 91-99.

Sobchik, L. N. Standardized multi-factor method of personality investigation MMPI. St. Petersburg: Rech, 2000.

Strelkova, O. V. "Psychological aspects of sailors' professional activity". The bulletin of Emmanuel Kant Baltic University, num 5 (2010): 45-51.

Trankovskij, D. E. "Working conditions and professional morbidity of transport workers in the Primorye". Health. Medical ecology", num 4 Vol: 58 (2013): 111-113.

"WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects". 2013.

Zheglov, V. V.; Semjonov, F. M. & Kasatkin, V. I. "Increasing sailors' disease tolerance". Marine collection of works, num 7 (1984) 47-51.

Comparative analysis of emotional personality traits of the students of maritime science majors caused by long-term... pág. 554

Zinchenko, S.; Ben, A.; Nosov, P.; Popovych, I.; Mamenko, P. & Mateychuk, V. "Improving Accuracy and Reliability in Automatic Ship Motion Control Systems". Radio Electronics, Computer Science, Control, num 2 (2020): 189-201.

Zinchenko, S.; Nosov, P.; Mateichuk, V.; Mamenko, P.; Popovych, I. & Grosheva, O. "Automatic collision avoidance system with many targets, including maneuvering ones". Bulletin of university of Karaganda, Vol: 96 num 4 (2019): 69-79. DOI: 0.31489/2019Ph4/69-79

CUADERNOS DE SOFÍA EDITORIAL

Las opiniones, análisis y conclusiones del autor son de su responsabilidad y no necesariamente reflejan el pensamiento de **Revista Inclusiones**.

La reproducción parcial y/o total de este artículo
Puede hacerse sin permiso de **Revista Inclusiones**, citando la fuente.